JHR 28: 67–84 (2012)
doi: 10.3897/JHR.28.2023
www.pensoft.net/journals/jhr

RESEARCH ARTICLE

JOURNAL OF Hymenoptera RESEARCH
A peer-reviewed open-access journal
The International Society of Hymenopterists

Five new braconid species from Colombia (Hymenoptera, Braconidae)

Jenő Papp[1,†]

1 *Department of Zoology, Hungarian Natural History Museum, Baross utca l3, H–1088 Budapest, Hungary*

† *urn:lsid:zoobank.org:author:445C9BCE-4785-4489-8501-33B7A7CF3B60*

Corresponding author: *Jenő Papp* (j.papp1933@gmail.com)

Academic editor: *Gavin Broad* | Received 7 September 2011 | Accepted 17 April 2012 | Published 24 August 2012

urn:lsid:zoobank.org:pub:90F6E6B8-A903-44DB-AD0E-3D851F6454C9

Citation: Papp J (2012) Five new braconid species from Colombia (Hymenoptera, Braconidae). Journal of Hymenoptera Research 28: 67–84. doi: 10.3897/JHR.28.2023

Abstract

Descriptions are given of five new braconid species and one new genus from Colombia: *Aspilota stigmalis* **sp. n.**, *Synaldis cauca* **sp. n.**, *Telmogarbus* **gen. n.**, *Telmogarbus olivai* **sp. n.** (all Alysiinae); *Blacus (Tarpheion) latestigma* **sp. n.** (Blacinae) and *Pseudorhysipolis inaequalis* **sp. n.** (Rhysipolinae). Types are deposited in the A. Humboldt Institute, Villa de Leyva, Boyacá, Bogota (Colombia). Critical remarks on the taxonomic position of the genus *Synaldis* are included. With 57 line drawings.

Keywords

New species, new genus, type, description, taxonomy, neotropics

Introduction

In the Neotropical braconid material, sent by Dr. M. J. Sharkey (University of Kentucky) to me for identification, seven specimens were found which proved to represent five new species, one species also a new genus. The five species were collected in Colombia with Malaise traps. The new species are as follows (in brackets the respective subfamily name): *Aspilota stigmalis* sp. n. (Alysiinae: Alysiini), *Blacus (Tarpheion) latestigma* sp. n. (Blacinae), *Pseudorhysipolis inaequalis* sp. n. (Rhysipolinae), *Synaldis cauca*

Copyright *Jenő Papp*. This is an open access article distributed under the terms of the Creative Commons Attribution License 3.0 (CC-BY), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

sp. n. (Alysiinae: Alysiini) and *Telmogarbus olivai* gen. et sp. n. (Alysiinae: Alysiini). The type specimens are deposited in the Insect Collection, Alexander Humboldt Institute, Villa de Leyva, Boyacá, Bogota, Colombia; one paratype is in the Hungarian Natural History Museum, Budapest, Hungary.

Descriptions of the new taxa

In the descriptions abbreviations follow van Achterberg (1993: 4–5). Surface sculpture terminology follows Harris (1979).

Subfamily Alysiinae, tribe Alysiini

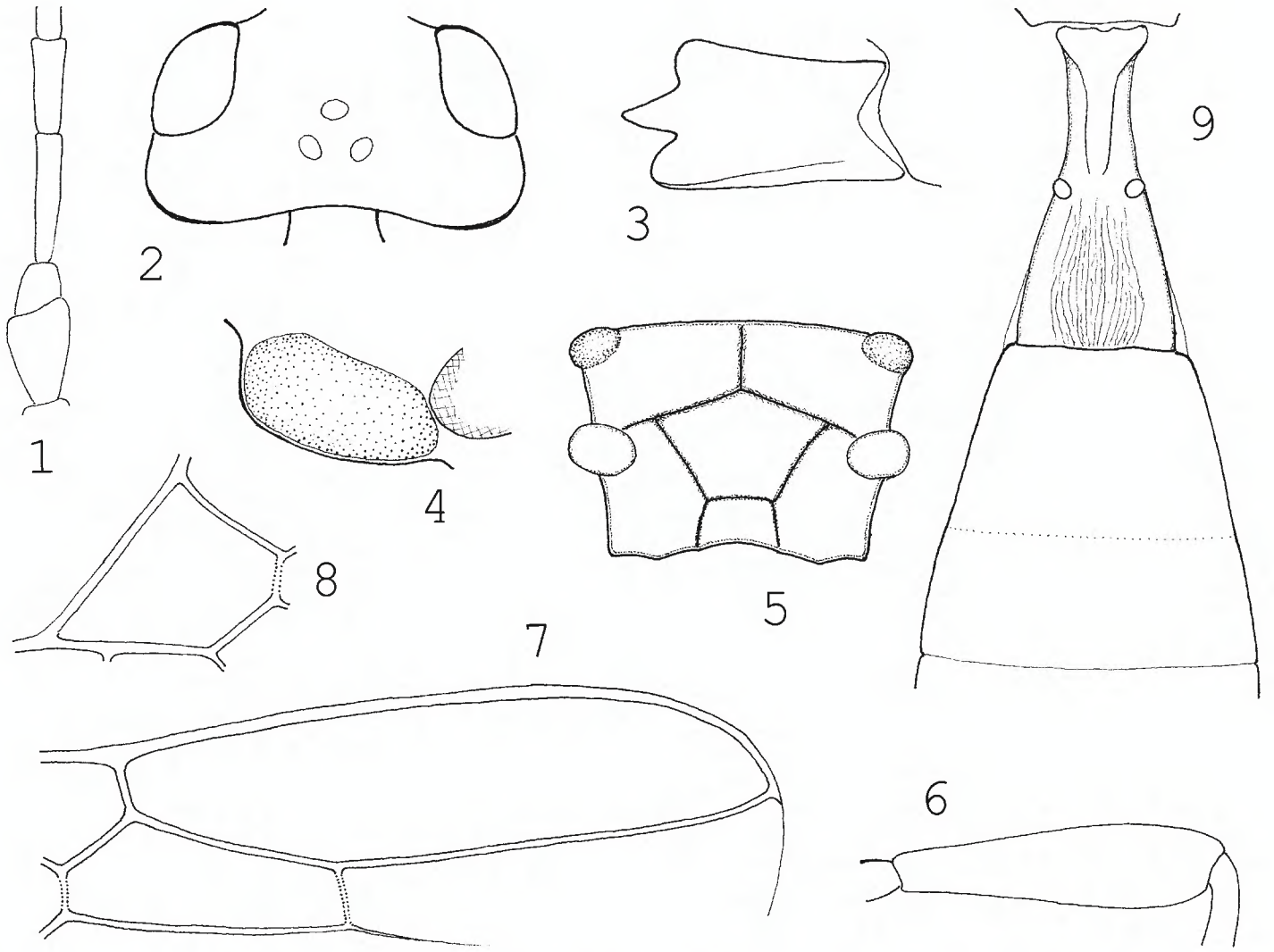
***Aspilota stigmalis* sp. n.**
urn:lsid:zoobank.org:act:0F26E475-5F9E-4F96-8407-AC2DD4BED718
http://species-id.net/wiki/Aspilota_stigmalis
Figures 1–9

Holotype ♀**:** COLOMBIA, Magdalena PNN Sierra Nevada de Santa Marta Bella Vista, 10°48'N / 73°39'W, 1500 m, Malaise trap, 1–15 June 2001, leg. J. Cantillo. – Holotype is in good condition: (1) glued on a card point by the right mesopleuron, (2) left antenna missing ultimate or 19th antennomere (17th flagellomere), (3) right pair of wings less visible owing to mounting and to the apically creased fore wing.

Etymology. The species name *stigmalis* refers to the large pairs of spiracles on the propodeum and first tergite (Figs 5, 9).

Description. Body 3 mm long. Antenna as long as head, mesosoma and tergites 1–2 combined, with 19 antennomeres. Scape twice as long as broad apically and somewhat belly, first flagellomere 1.2 times as long as second, second flagellomere somewhat thicker than first, first flagellomere 3.7 times and second 2.5 times as long as broad (Fig. 1). Head in dorsal view transverse, almost 1.9 times as broad (between temples) as long (between compound eye and temple), temple slightly swollen, eye almost 1.3 times as long as temple (Fig. 2). Eye in lateral view 1.7 times as high as wide and just wider than gena, gena evenly broad beyond eye. Mandible along its lower margin 1.8 times as long as broad between upper and lower teeth, both teeth rounded (Fig. 3). Tentorial pit fairly large and extending to lower part of eye (Fig. 4). Head polished.

Mesosoma in lateral view stout, somewhat longer than high, polished. Notauli short, restricted to anterior declivous part of mesoscutum and finely crenulate. Pronope missing. Precoxal suture short, crenulate, medially on mesopleuron. Propodeum areolate, spiracles large, otherwise propodeum smooth and shiny, on its upper corner foveolate depressed (Fig. 5). Hind femur 3.8 times as long as broad distally (Fig. 6). Hind tibia slightly longer than hind tarsus.



Figures 1–9. *Aspilota stigmalis* sp. n.: **1** scape, pedicel and flagellomeres 1–2 **2** head in dorsal view **3** mandible **4** paraclypeal pit **5** propodeum **6** hind femur **7** distal part of right fore wing **8** first discal cell of fore wing **9** tergites 1–3.

Fore wing as long as body. Pterostigma linear (Fig. 7), *r* long, 3.5 times as long as width of pterostigma. Second submarginal cell long, *3–SR* 2.3 times as long as *2–SR*, *r–m* as long as *r*. First discal cell: *1–M* 1.9 times as long as *1–SR–M* (Fig. 8).

First tergite (Fig. 9) long, twice as long as posteriorly broad, spiracles large and at middle of tergite, pair of basal keels reaching spiracles, hind half of tergite striolate. Tergites 2–3 fully fused (i.e. border between tergites indistinct) and together with further tergites polished. Ovipositor sheath as long as mid tibia.

Scape and pedicel yellow, flagellum darkening brown. Head and mesosoma chestnut dark brown. Mouthparts whitish. First tergite brownish yellow, tergites 2–3 brownish, remaining tergites chestnut dark brown. Legs pale yellow. Tibiae apically and tarsi faintly light brownish. Wings hyaline, pterostigma brown, veins light brown.

Male and host unknown.

Distribution. Colombia.

Diagnosis. The new species, *Aspilota stigmalis*, is nearest to *A. phyllotomae* Fischer (Fischer 1970: 124) with their common features being the transverse head in dorsal view, first tergite 2.1 times as long as broad posteriorly, dentation of mandible and chestnut brown ground colour of body. The two species are distinguished by the following characters (*A. phyllotomae* is known only by its original description: Fischer 1970: 125):

1(2) Propodeum granulo-rugulose and not areolate, spiracles of propodeum and first tergite small, i.e. usual in size. Antenna with 14–15 antennomeres, flagellomeres 1–2 equal in length (each about three times as long as broad) and equally thick. Eye in dorsal view just shorter (cf. Abb. 33 in Fischer 1970: 33) to as long as temple. Fore wing: *r* slightly longer than width of pterostigma, *3–SR* 1.6 times as long as *2–SR*, *SR1* 2.7 times as long as *3–SR* (cf. Abb. 34 l.c.). Prosternum and tegula yellow. ♀ 1.3 mm. — U.S.A. (Maine, Michigan) ..... ***A. phyllotomae*** **Fischer, 1970**

2(1) Propodeum areolate, otherwise smooth and shiny, spiracles of propodeum and first tergite large (Figs 5, 9). Antenna with 19 antennomeres, first flagellomere 1.2 times as long as second flagellomere, second flagellomere somewhat thicker than first flagellomere (Fig. 1). Eye in dorsal view almost 1.3 times as long as temple (Fig. 2). Fore wing: *r* more than two times as long as width of pterostigma, *3–SR* 2.3 times as long as *2–SR*, *SR1* 2.25 times as long as *3–SR* (Fig. 7). Prosternum and tegula brown. ♀: 3 mm. – Colombia..... ..... ***A. stigmalis*** **sp. n.**

Synaldis cauca **sp. n.**

urn:lsid:zoobank.org:act:78AEA130-5EF3-4FD2-A9BF-0415E0DCAFBC

http://species-id.net/wiki/Synaldis_cauca

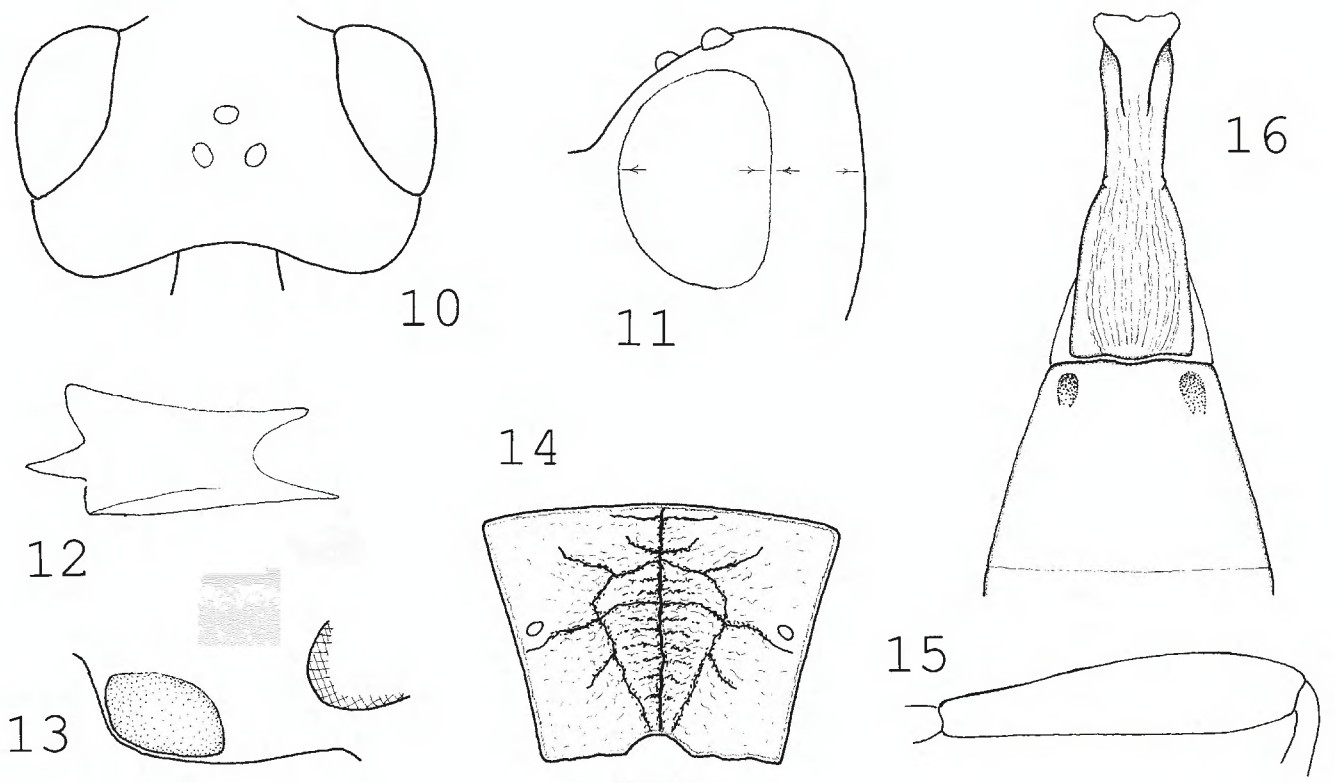
Figures 10–16

Holotype ♀: COLOMBIA, Valle del Cauca, PNN Farallones de Cali, Anchicaya, 3°26'S / 76°48'W, 900 m, Malaise trap, 1 August – 10 October 2000, leg. S. Sarria. – Holotype is in good condition: (1) glued on a card point by its right mesopleuron, (2) right antenna broken, with 15 antennomeres, (3) right fore wing creased apicoposteriorly.

Etymology. The new species is named after the type locality, "Cauca".

Description. Body 2.6 mm long. Antenna as long as body and with 21 antennomeres. First flagellomere three times as long as broad apically, further flagellomeres gradually shortening and indistinctly attenuating so that penultimate flagellomere 2.5 times as long as broad. Head in dorsal view less transverse or subcubic (Fig. 10), 1.7 times as broad as long, eye almost 2.9 times as long as temple, temple rounded. Ocelli medium-sized, OOL almost three times as long as POL. Eye in lateral view nearly 1.5 times as high as wide and nearly 1.6 times as wide as temple, temple beyond eye evenly widened (Fig. 11, see arrows). Lower tooth of mandible somewhat small, mandible twice as long as broad between upper and lower teeth (Fig. 12). Paraclypeal pit short, i.e. distance between pit and eye as long as length of paraclypeal pit itself (Fig. 13). Maxillary palp one-sixth longer than height of head.

Mesosoma in lateral view stout, somewhat longer than high, polished. Mesoscutal dimple before prescutellar furrow. Precoxal suture medially on mesopleuron, crenulate. Propodeum with medio-longitudinal carina and with areolation (areola basalis, etc.,



Figures 10–16. *Synaldis cauca* sp. n.: **10** head in dorsal view **11** head in lateral view **12** mandible **13** paraclypeal pit **14** propodeum **15** hind femur **16** tergites 1–2.

Fig. 14). Hind femur 4.1 times as long as broad distally (Fig. 15). Hind tibia and tarsus equal in length. Hind basitarsus as long as tarsomeres 2–3 combined.

Fore wing: venation "*Synaldis*-form", i.e. *2–SR* missing hence first and second submarginal cells confluent; *r + 3–SR* as long as *SR1*, *CU1a* issuing from middle of outer side of subdiscal cell.

First tergite (Fig. 16) 2.8 times as long as broad posteriorly, moderately broadening posteriorly. Pair of keels merging into fine striation; spiracles close beyond middle of tergite. Tergites 2–3 fused and as long as first tergite, together with further tergites polished. Ovipositor sheath as long as mid tibia.

Scape and pedicel brownish yellow, flagellum darkening brown. Head, mesosoma and first tergite brownish black, rest of metasoma brown. Mandible and mouthparts yellow. Tegula brownish yellow. Legs yellow, hind tarsus greyish fumous. Wings hyaline, pterostigma and veins opaque brownish yellowish.

Male and host unknown.

Distribution. Colombia.

Diagnosis. The new species, *Synaldis cauca*, is near to *S. acutidens* Fischer as both have a mandible with three spiky teeth, *SR1* more than twice as long as *r + 3–SR* combined and dark bodies; the two species are distinguished as follows (*S. acutidens* is known by its original description: Fischer 1967: 434):

1(2) Head in dorsal view 1.5 times as broad as long; eye as long as temple. Propodeum polished and with medio-longitudinal carina, spiracles fairly large. Antenna with 16–18 antennomeres. Hind femur 3.5 times as long as broad

distally (Abb. 2 in Fischer 1967: 434). First tergite twice as long as broad posteriorly, widening more posteriorly. Lower tooth of mandible of usual size (Abb. 1 l.c in Fischer, 1967) . Head and mesosoma black, metasoma brown, first tergite yellow. ♀: 1.7 mm. – U.S.A. (Michigan, Wisconsin) .... ***Synaldis acutidens*** **Fischer, 1967**

2(1) Head in dorsal view 1.7 times as boad as long; eye almost 2.9 times as long as temple (Fig. 10). Propodeum with medio-longitudinal carina and with areolation, spiracles small (Fig. 14). Antenna with 21 antennomeres. Hind femur 4.1 times as long as broad distally (Fig. 15). First tergite 2.6 times as long as broad, widening less posteriorly (Fig. 16). Lower tooth of mandible somewhat small (Fig. 12). Head, mesosoma and first tergite brownish black, metasoma brown. ♀: 2.6 mm. – Colombia..... ***Synaldis cauca*** **sp. n.**

Taxonomic remark. The single distinctive generic feature of the genus *Synaldis* Foerster that differentiates it from *Aspilota* Foerster (the confluent first and second submarginal cells of the fore wing, or absence of vein *2–SR*) has been questioned since more than a century. Wharton (1980: 34) points out: "There are undoubtedly species of *Aspilota* in which only the *Synaldis*-type venation occurs. But the grouping of such species at a subgeneric level would be misleading, since it is based on a single character strongly subject to convergence." Fischer is the first specialist consistently maintaining *Synaldis* as a valid genus. To confirm and support his taxonomic standpoint he states (Fischer 1993: 453): "Da diese Gattungen [of the genus-group *Aspilota*] überwiegend diagnostischen Charakter haben und auch Übergänge aufweisen (und es übrigens auch keine objektiven Kriterien für das Aufstellen von Taxa der Gattungs-Gruppe gibt), erscheint mir das Beibehalten der verhältnismäßig leicht abgrenzbaren *Synaldis* Foerster gerechtfertigt und für die praktische Arbeit zweckmäßig." A second expert, Belokobylskij (2002), also considers *Synaldis* as a valid genus: in his key to the species of the Russian Far East the species are arranged under this genus. I am quite convinced that the species with *Synaldis*-form fore wing venation is evolving in our present epoch (in geochronological sense). In this conception the missing vein *2–SR* is an unambiguous character for the *Synaldis* species, consequently this feature is a "true generic" alar formation. The loss of vein *2–SR* is a convergent feature within the subfamily Alysiinae and also in the family Braconidae. The other convergent feature of *Synaldis* species (sensu Fischer) is the "long" versus "short" tentorial pit (occurring in several alysiine genera). The species with a "short" tentorial pit (i.e. pit not reaching compound eye) are in a small majority over the species with a "long" pit (i.e. pit reaching compound eye). I consider this feature also as an evolutionary process. There are evolving the *Synaldis* species with common generic feature: missing the vein *2–SR* (apomorphic) and forming the tentorial pit in two forms: in "short" and "long" pits. This taxonomic standpoint corresponds unambiguously with Fischer's one: *Synaldis* is a valid genus. However, several American (and also some European) specialists refute the validity of the genus *Synaldis*, emphasizing the complexity of these features and giving less evolution-

ary significance to the presence / absence of vein *2–SR*. Currently it seems difficult to decide whether the presence or absence of the "short" and "long" tentorial pit is plesiomorphic or apomorphic, respectively. In the case of vein *2–SR* it is generally considered that its presence is plesiomorphic and its absence is apomorphic. By the way, there are rarely occurring "*Synaldis*" specimens (one versus hundred to thousand specimens) which show transitional status: vein *2–SR* is (very) faintly present (considered as atavistic feature) — confirming the viewpoint that this venational mark is on the course to be stabilized. If we accept the hypothesis that the primary process within *Synaldis* species is the process of the loss of *2–SR* and the formation of the tentorial pit is the secondary process in the evolution of this genus then *Synaldis* is evidently tenable as a "good" genus.

The above short essay is but a viewpoint in the taxonomic treatment of the genus *Synaldis*. My conception is expounded in a traditional form – the morphological data matrix and molecular analysis will, presumably, unambiguously solve this taxonomic problem.

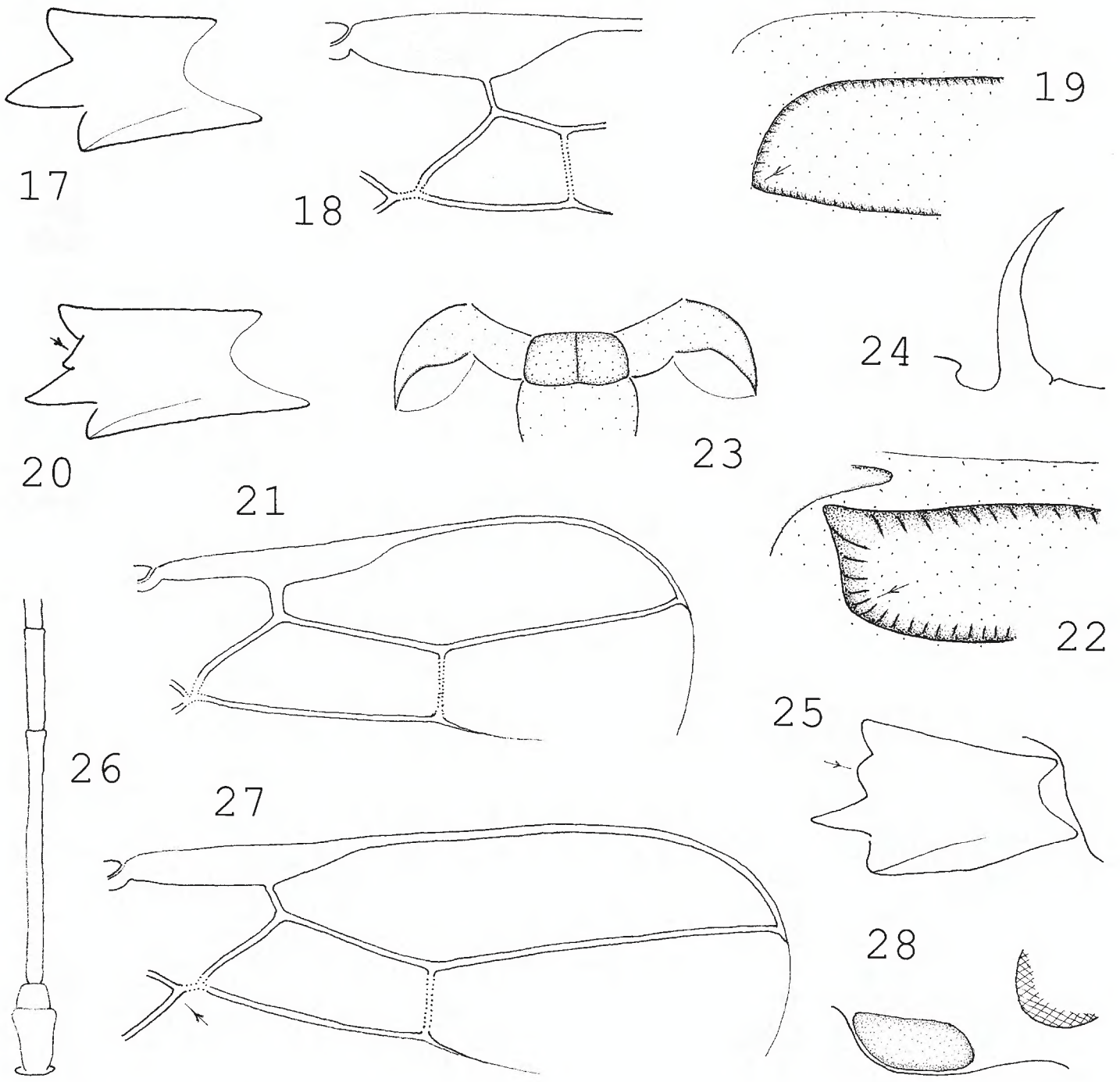
***Telmogarbus* gen. n.**
urn:lsid:zoobank.org:act:6F9EFAFB-3F27-4A38-BFE9-C84E3B673E0A
http://species-id.net/wiki/Telmogarbus
Figures 20–24, 33–40

Type species: *Telmogarbus olivai* gen. et sp. n. (monobasic and present designation).

Etymology. The new genus receives the fantasy name, *Telmogarbus*.

Description. Body gracile. Antenna filiform, flagellomeres very long. Head in dorsal view transverse, eye distinctly longer than temple (Fig. 36). Mandible with four teeth, fourth tooth between first and second teeth (Fig. 20, see arrow). Maxillary palp very long, about twice as long as height of head. Face and clypeus much wider than high. Paraclypeal pit short, i.e. not reaching compound eye (Fig. 35). Ocelli medium-sized, elliptic. Pronope small, distinct. Notauli evenly deep, meeting behind, finely crenulate; mesoscutal dimple missing. Prescutellar furrow wide, with a few crenulae. Axille with pair of lamelliform excrescences (Fig. 23). Metanotum medially with thin, long spine curving posteriorly (Fig. 24). Propodeum polished, carinate (Fig. 38). Precoxal suture distinct, crenulate. Epicnemial carina present. Legs long and thin. Fore wing as long as body. Pterostigma widening medially, second submarginal cell long: *3–SR* clearly longer than *2–SR*, *m–cu* interstitial (Fig. 21). First tergite petiolate, beyond first tergite metasoma narrow, tergites polished, tergites 2–3 fused (Fig. 33). Hypopygium small, ovipositor sheath short. Ground colour of body yellow to (light) brown. Wings hyaline.

Diagnosis. The new genus is near to the Palaearctic genus *Kritscherysia* Fischer (Fischer 1993: 484), to the Neotropic *Gnathopleura* Fischer (Fischer 1975: 128) and to the Palaearctic / Oriental / Nearctic genus *Cratospila* Foerster. The generic differentation of the four genera is presented below.



Figures 17–28. 17–19 *Cratospila circe* (Haliday): **17** mandible **18** pterostigma and first submarginal cell of right fore wing **19** mesoscutum in lateral view (its declivous lateral part). **20–24** *Telmogarbus olivai* gen. et sp. n.: **20** mandible **21** distal part of right fore wing **22** mesoscutum in lateral view (its declivous lateral part) **23** axilla with pair of excrescenses **24** metanotal spine in lateral view. **25–28** *Kritscherysia longimembrum* Fischer: **25** mandible **26** scape, pedicel and flagellomeres 1–2 **27** distal part of right fore wing **28** paraclypeal pit.

1.) Distinction between *Kritscherysia* and *Telmogarbus*: Common features of the two genera are the pair of more or less lamelliform excrescenses laterally from the prescutellar furrow (or on axillae) (Fig. 23; Abb. 54 in Fischer 1993: 485), long second submarginal cell (Fig. 21; Abb. 51 l.c.), long flagellomeres (Figs 26, 34) and ground colour of body yellow to light brown. The two genera are distinguished as follows.

1(2) Metanotum without spine. Mandible with convexity between teeth 1 and 2 ("Interkalarwölbung" Fischer 1993: 484; Fig. 25, see arrow). First flagellomere 2.5 times as long as second flagellomere (Fig. 26). Fore wing: *r* issuing distally from pterostigma, *n. rec.* antefurcal (Fig. 27, see arrow). Paraclypeal

pit long, its length greater than distance between pit and compound eye (Fig. 28). Two species in the Ethiopian Region ..... ***Kritscherysia* Fischer, 1993**

2(1) Metanotum with spine (Fig. 24). Mandible with a fourth tooth between teeth 1 and 2 (Fig. 20, see arrow). Flagellomeres 1 and 2 equal in length (Fig. 34). Fore wing: *r* issuing from middle of pterostigma (Fig. 21), *n. rec.* interstitial (Fig. 40, see vertical arrow). Paraclypeal pit short, its length as long as distance between pit and compound eye (Fig. 35). One species in the Neotropical Region..... ***Telmogarbus* gen. n.**

2.) Distinction between *Gnathopleura* and *Telmogarbus*: The new genus runs to *Gnathopleura* Fischer in Wharton's (1997: 88–98) identification key to the alysiine genera of the Neotropical Region, their common feature is the fourth tooth between teeth 1 and 2 (Figs 20, 29, see arrows); the distinction between them is presented here.

1(2) Mandible strong and broad, 1.2–1.4 times as long as broad between upper and lower teeth (Fig. 29). First tergite as long as to 1.2 times as long as broad posteriorly, strongly widening posteriorly (Fig. 30). Flagellomeres thick, first flagellomere 2 to 3 times as long as broad, second flagellomere variably longer / as long as / shorter than first flagellomere (Fig. 31). Fore wing: *3–SR* at most as long as *2–SR* or shorter, i.e. second submarginal cell short (Fig. 32). Wings dark, infumate. – Twelve described species in the Neotropical Region (Yu et al. 2005) ..... ***Gnathopleura* Fischer, 1975**

2(1) Mandible usual in size, 1.8 times as long as broad between upper and lower teeth (Fig. 20). First tergite 1.8 times as long as broad posteriorly, subparallel-sided (Fig. 33). Flagellum thin, first flagellomere 10 times as long as broad, second flagellomere as long as first flagellomere (Fig. 34). Fore wing: *3–SR* 1.5 times as long as *2–SR*, i.e. second submarginal cell long (Fig. 21). Wings hyaline. – One species in the Neotropical Region ..... ***Telmogarbus* gen. n.**

3.) Distinction between *Cratospila* and *Telmogarbus*: disregarding the number of mandibular teeth, the new genus will run to *Cratospila* Foerster (Wharton 1997: 88–98) by virtue of their delicate body shape, very long flagellomeres and long first tergite; the two genera differ from each other by the features in the key below.

1(2) Mandible with three teeth (Fig. 17). Fore wing: *3–SR* shorter than (or at most as long as) *2–SR*, i.e. second submarginal cell short; pterostigma with *r* issuing distal to its middle (Fig. 18; Fig. 83 in Wharton 1997: 109). Notauli not turning into crenulate lateral margin of mesoscutum (Fig. 19, see arrow). Axilla without excrescense; metanotum without spine. Fourteen species in Old and New World..... ***Cratospila* Foerster, 1862**

2(1) Mandible with four teeth, fourth tooth between first and second teeth (Fig. 20, see arrow). Fore wing: *3–SR* 1.5 times as long as *2–SR*, i.e. second sub-

marginal cell long; pterostigma with *r* issuing from its middle (Fig. 21). Notauli turning into crenulate lateral margin of mesoscutum (Fig. 22, see arrow). Axilla with lamelliform excrescense (Fig. 23); metanotum with spine (Fig. 24). One species in the Neotropical region ..... ***Telmogarbus* gen. n.**

Taxonomic remark. The three genera related to the new genus *Telmogarbus* are known to me by the following material: 1.) *Cratospila* by females and males of *C. circe* Haliday; 2.) *Gnathopleura* by a few Neotopical species; 3.) *Kritscherysia* by two male paratypes of *K. longimembrum* Fischer and the original description.

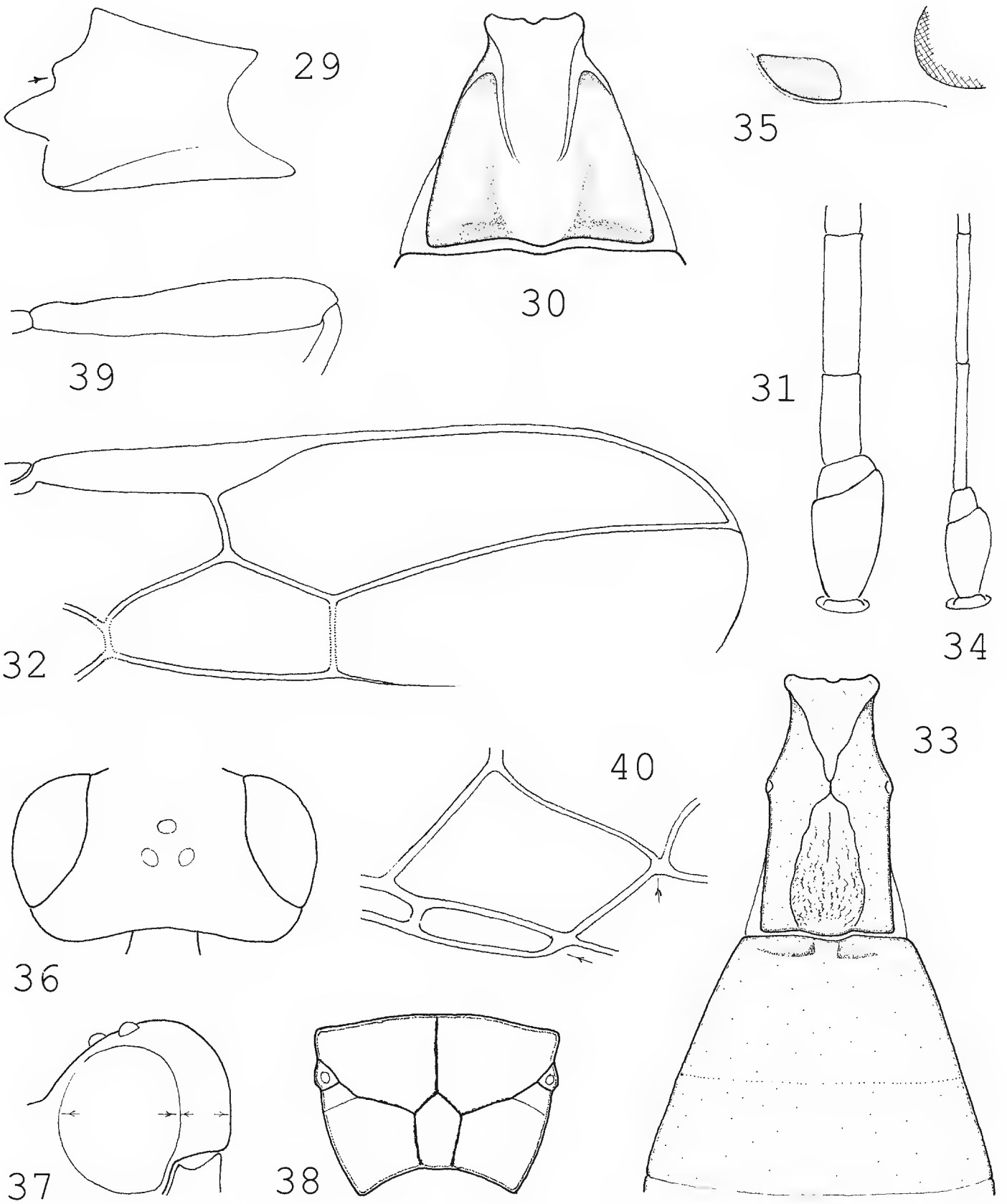
***Telmogarbus olivai* sp. n.**
urn:lsid:zoobank.org:act:198BCB2B-3030-4C87-B2D3-D944CFA2E478
http://species-id.net/wiki/Telmogarbus_olivai
Figures 20–24, 33–40

Holotype ♀ and one paratype ♂: COLOMBIA, Nariño R. N., La Planada Parcela Olga, 1°15'N / 78°15'W, Malaise trap, holotype: 16 June – 2 July 2000 and paratype: 16 March – 2 April 2001, leg. G. Oliva. Holotype is in fairly good condition: (1) glued on a card point by lower part of mesopleuron,;(2) right flagellum broken, antenna with 19 antennomeres; (3) missing: right middle leg, right fore leg (except coxa) and tarsomeres 2–4 of left hind leg; (4) left fore wing apically missing beyond pterostigma. Paratype is also in fairly good condition: (1) glued on card point by meso- and metapleura; (2) left flagellum apically broken, antenna with 22 antennomeres; (3) missing tarsi of right fore and hind legs.

Etymology. The new species is dedicated to its collector, Mr. G. Oliva.

Description. *Female:* Body 3.6 mm long. Antenna long, twice as long as body, with 33 antennomeres. Flagellomeres very long, flagellomeres 1–2 equal in length and ten times as long as broad apically (Fig. 34), subsequent flagellomeres slightly shortening so that penultimate flagellomere four times as long as broad. Head in dorsal view transverse (Fig. 36), 1.8 times as broad as long, eye 4.5 times as long as temple, temple rounded, occiput weakly excavate. OOL somewhat more than twice as long as POL. Eye in lateral view 1.25 times as high as wide and 2.4 times as wide as temple, temple beyond eye evenly wide (Fig. 37). Mandible 1.8 times as long below as broad between upper and lower teeth, fourth tooth between upper and middle teeth, every tooth pointed (Fig. 20). Paraclypeal pit as long as distance between pit and compound eye (Fig. 35). Segments of maxillary palp long, palp about 1.5 times as long as height of head. Head polished.

Mesosoma in lateral view stout, 1.2 times as long as high, polished. Pronope present. Crenulate notauli turning down to crenulated margin of mesoscutum, i.e. notauli not extending onto declivous anterior part of mesoscutum (Fig. 22, see arrow). Notauli meeting posteriorly (before prescutellar furrow) and here dimple missing. Prescutellar furrow subcrenulate, laterally from furrow (or on axillae) with pair of lamelliform excrescenses (Fig. 23). Metanotum medially with fairly long and somewhat posteriorly



Figures 29–40. 29–32 *Gnathopleura cariosa* Marsh: **29** mandible **30** first tergite **31** scape, pedicel and flagellomeres 1–2 **32** distal part of right fore wing. **33–40** *Telmogarbus olivai* gen. et sp. n.: **33** tergites 1–3 **34** scape, pedicel and flagellomeres 1–2 **35** paraclypeal pit **36** head in dorsal view **37** head in lateral view **38** propodeum **39** hind femur **40** first discal and first subdiscal cells.

curved spine (Fig. 24). Propodeum areolate, areolae polished, spiracles before middle of propodeum, carination strong (Fig. 38). Precoxal suture distinct, restricted to middle of mesopleuron, crenulate, hind margin of mesopleuron almost smooth to subcrenulate; epicnemial carina present. Legs long. Hind femur 5.5 times as long as broad distally (Fig. 39). Hind tibia almost 1.3 times as long as hind tarsus.

Pterostigma (Fig. 21) 6.6 times as long as wide and *r* issuing from its middle, *r* short, shorter than width of pterostigma. Second submarginal cell long, *3–SR* 1.6 times as long as *2–SR*, *n. rec.* interstitial, *SR1* 1.6 times as long as *3–SR* and reaching tip of wing. First subdiscal cell narrowing distally and closed (Fig. 40, see horizontal arrow), *CU1a* interstitial (Fig. 40, see vertical arrow).

First tergite (Fig. 33) 1.8 times as long as broad behind, weakly broadening posteriorly, spiracles before middle of tergite; pair of basal keels meeting at spiracle and posteriorly diverging, reaching hind end of tergite. Hind half of tergite medially between keels longitudinally substriate, otherwise polished. Tergites 2–3 fused and as long as first tergite, together with further tergites polished (Fig. 33). Ovipositor sheath as long as first tergite or hind basitarsus + half of second tarsomere.

Ground colour of body yellow to brownish yellow. Scape and pedicel brownish yellow. Flagellum brown to dark brown, flagellomeres 19–25 white. Head brownish yellow, vertex brown. Mandible, mouthparts, palps pale yellow. Prothorax browish yellow, mesoscutum, scutellum and mesosternum brown. Mesopleuron and propodeum blackish brown. Tergites brown, sternites yellow. Legs yellow, coxae and trochanters lemon yellow. Wings hyaline, pterostigma and veins yellowish.

Description. *Male paratype.* Similar to female holotype. Body 3.5 mm long. Antenna with 31 antennomeres. Head in dorsal view 1.8 times as broad as long. Pterostigma wide, 5.7 times as long as wide. Dark colour somewhat more extensive.

Host. Unknown.

Distribution. Colombia.

Subfamily Blacinae

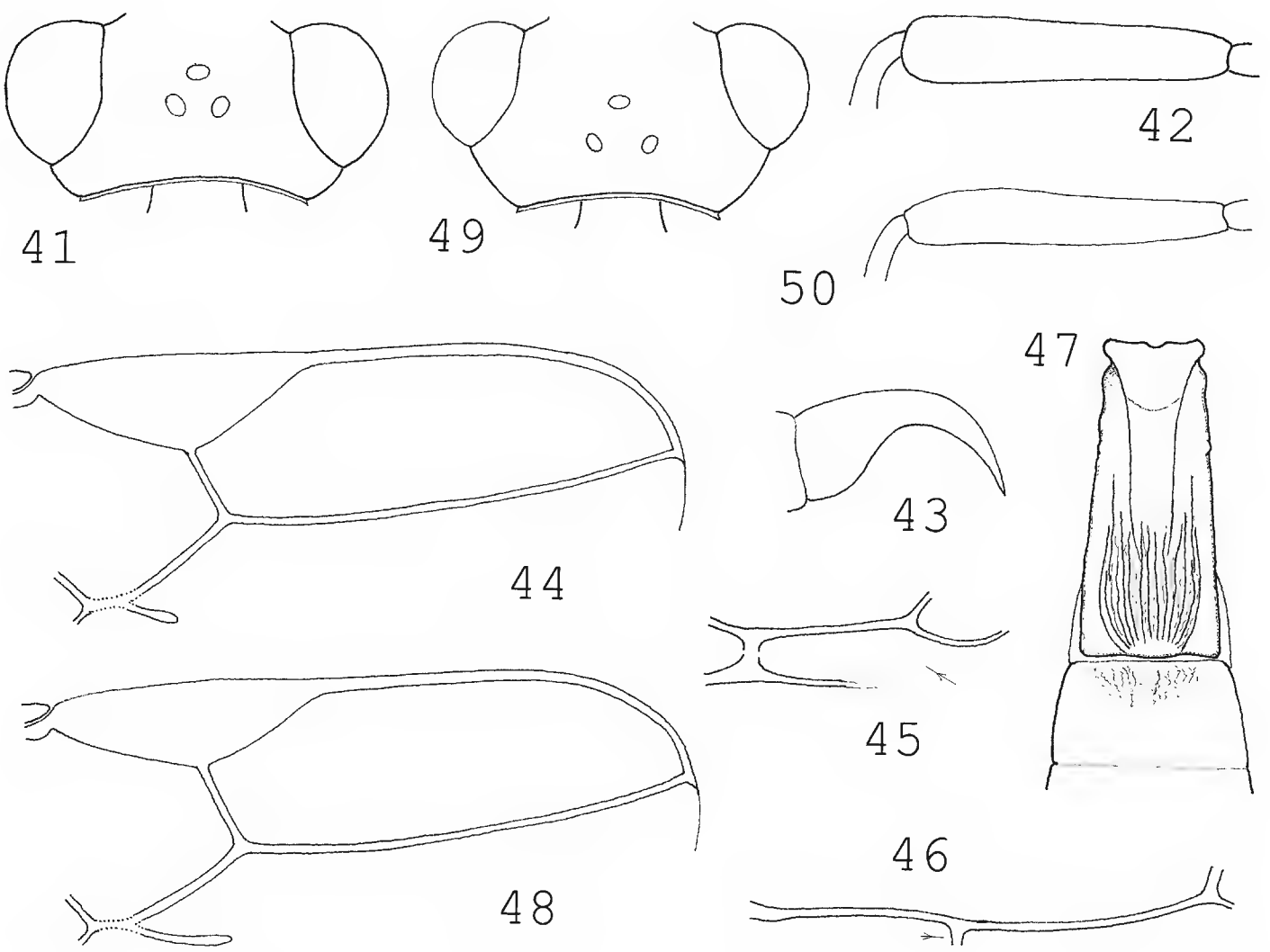
Blacus (*Tarpheion*) *latestigma* sp. n.

urn:lsid:zoobank.org:act:AF970EB5-9078-4098-AE34-B6B8D1B0AD93
http://species-id.net/wiki/Blacus_latestigma
Figures 41–50

Holotype ♀: COLOMBIA, Amazonas, PNN Amacayacu San Martin, 150 m, 3°23'S / 70°6'W, Malaise trap, leg. B. Amado. Holotype is in good condition: (1) glued on a card point by the right metapleuron, (2) right femur + tibia in glue, hardely visible, (3) left hind leg on the right side owing to the mounting.

Etymology. The name *latestigma* refers to the wide pterostigma.

Description. Body 2.5 mm long. Antenna somewhat longer than body and with 25 antennomeres. First flagellomere six times as long as broad apically and 1.5 times as long as second flagellomere, subsequent flagellomeres shortening so that penultimate flagellomere twice as long as broad. Head in dorsal view (Fig. 41) distinctly twice as broad as long, eye almost four times as long as temple, temple receding. Occiput carinate. Ocelli elliptic, OOL twice as long as POL. Malar suture present. Maxillary palp somewhat longer than height of head. Eye in lateral view 1.3 times as high as wide. Head polished.



Figures 41–50. 41–47 *Blacus (Tarpheion) latestigma* sp. n.: **41** head in dorsal view **42** hind femur **43** claw **44** distal part of right fore wing **45** first subdiscal cell **46** hind wing: *M+CU + 1–M+cu–a* **47** tergites 1–2. **48–50** *Blacus (Tarpheion) erugatus* van Achterberg: **48** distal part of right fore wing **49** head in dorsal view **50** hind femur.

Mesosoma in lateral view 1.4 times as long as high. Notauli distinct, smooth. Precoxal suture short with weak crenulae. Lateral carina of scutellum missing. Propodeum rugose (like Fig. 101 in van Achterberg 1976: 64). Hind femur five times as long as broad distally (Fig. 11). Claw simple, basal lobe distinct (Fig. 43).

Fore wing almost as long as body. Pterostigma wide (Fig. 44), 2.6 times as long as wide, *r* issuing somewhat distal to middle, *r* 0.8 times as long as width of pterostigma. *2–SR* nearly 1.6 times as long as *r*, *3–SR + SR1* slightly bent and reaching tip of wing, 2–M short. First subdiscal cell open distally (Fig. 45, see arrow). Hind wing: *cu–a* slightly proximal to middle of vein *M+CU + 1–M* (Fig. 46, see arrow).

First tergite long and hardly broadening posteriorly (Fig. 47), 2.2 times as long as broad posteriorly, pair of keels distinct, finely striate. Second tergite almost 1.9 times as broad posteriorly as long, anteriorly strio-rugulose. Further tergites polished. Hypopygium fairly large, ovipositor sheath downcurved, somewhat longer than hind tibia.

Scape, pedicel and flagellomeres 1–2 straw yellow, rest of flagellum brown. Head brownish yellow, occiput brown, mouthparts whitish. Mesosoma blackish brown, tegula brown. Legs yellow, coxae and trochanters straw yellow. First tergite blackish

brown, further tergites brown, anterior sternites whitish. Wings hyaline, pterostigma brown, parastigma whitish, veins opaque brown.

Male and host unknown.

Distribution. Colombia.

Diagnosis. The new species, *Blacus (Tarpheion) latestigma*, runs to *B. (T.) erugatus* van Achterberg with the help of van Achterberg's keys (1976: 186, 1988: 140–141); the two species differ from each other by a few features.

1(2) Fore wing: pterostigma narrower, 3–3.3(3.6) times as long as wide, *r* as long as width of pterostigma, *2–M* long (Fig. 48). Eye in dorsal view 2.3 times as long as temple, temple slightly less receding, head in dorsal view slightly less transverse: 1.9 times as broad as long (Fig. 49). Hind femur 5.5–6.2 times as long broad distally (Fig. 50). First tergite more broadening posteriorly (Fig. 101 in van Achterberg 1976: 264). Antenna with 20–23 antennomeres. Ground colour of mesosoma reddish brown, head brown, face brownish yellow. ♀♂: 1.9 mm. – Brazil, Costa Rica, Ecuador..... ***Blacus (Tarpheion) erugatus* van Achterberg, 1976**

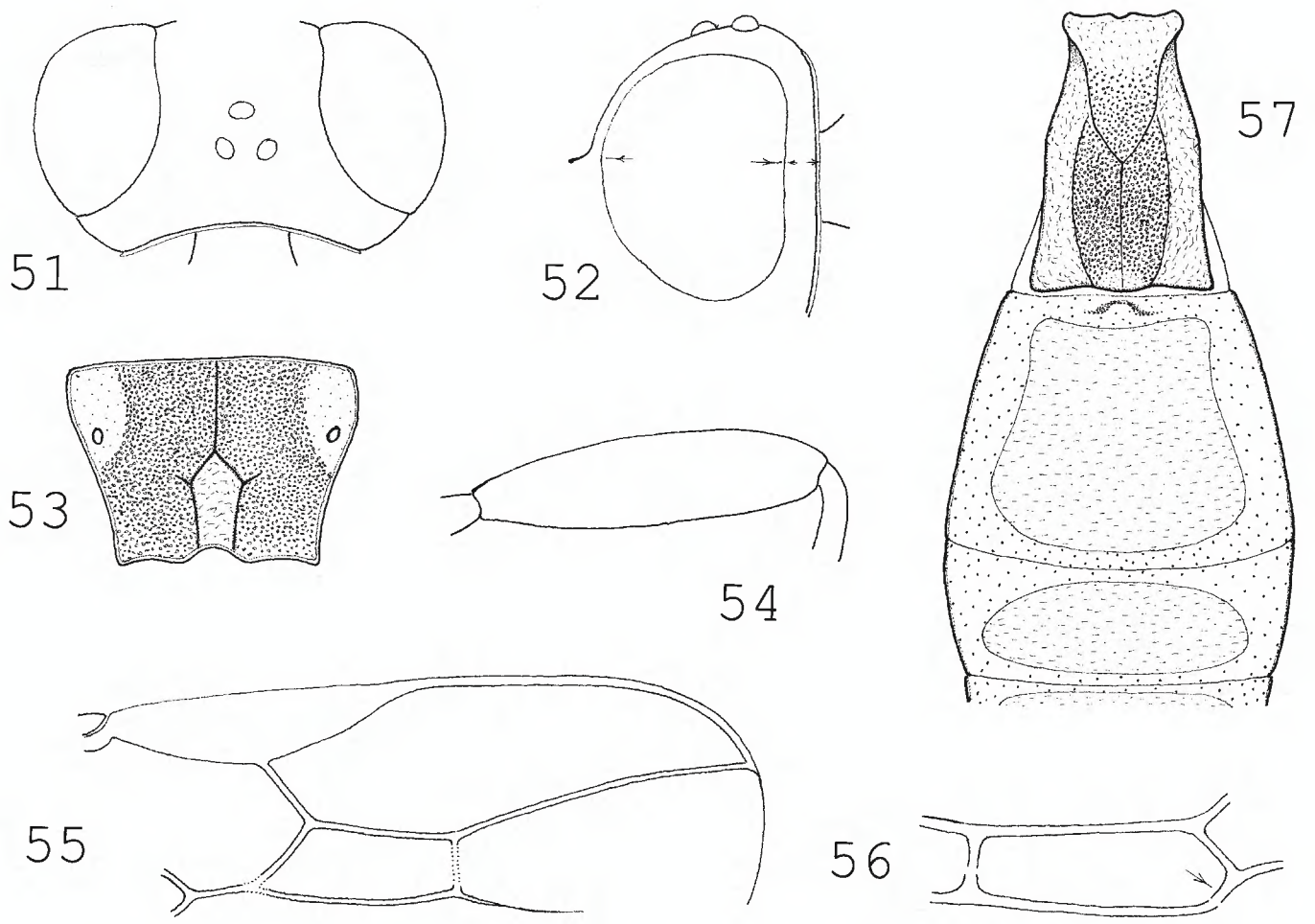
2(1) Fore wing: pterostigma wide, 2.6 times as long as wide, *r* 0.8 times as long as width of pterostigma, *2–M* short (Fig. 44). Eye in dorsal view 3.8 times as long as temple, temple slightly more receding, head in dorsal view clearly transverse, twice as broad as long (Fig. 41). Hind femur five times as long as broad distally (Fig. 42). First tergite hardly broadening posteriorly (Fig. 46). Antenna with 25 antennomeres. Ground colour of mesosoma blackish brown, head brownish yellow, occiput brown. ♀: 2.5 mm. – Colombia..... ***Blacus (Tarpheion) latestigma* sp. n.**

Taxonomic remark. *Blacus (Tarpheion) erugatus* is known to the author by a pair of female specimens, their data: (a) Costa Rica, Puntar, Golfo Dulce, 24 km W Piedras-Blancas, 200 m, June–August 1989, leg. Hanson; (b) Costa Rica, Carthago Pr., La Cangreja, 1950 m, October 1991, leg. Hanson. Both females identified by S.R. Shaw in 1999 and in the Hungarian Natural History Museum (Budapest) by exchange of material. The species is new to the fauna of Costa Rica.

Subfamily Rhysipolinae

***Pseudorhysipolis inaequalis* sp. n.**
urn:lsid:zoobank.org:act:8076B0BB-A892-4EF2-B203-345925A26426
http://species-id.net/wiki/Pseudorhysipolis_inaequalis
Figures 51–57

Holotype ♀ and one paratype ♀: COLOMBIA, Amazonas, PNN Amacayacu Mata-Mata, Malaise trap, 150 m, 2–15 October 2001, leg. D. Chota. M 2239. Holotype is



Figures 51–57. *Pseudorhysipolis inaequalis* sp. n.: **51** head in dorsal view **52** head in lateral view **53** propodeum **54** hind femur **55** distal part of right fore wing **56** first discal cell **57** tergites 1–3.

in good condition: (1) glued on a card point by its right meso- and metapleura, (2) left antenna broken, flagellum with 20 flagellomeres. Paratype is in fairly good condition: (1) glued on a card point by its right mesopleuron, (2) both antennae broken, right antenna with 16 and left antenna with 13 antennomeres, (3) right fore wing somewhat creased distally. Holotype in Boyacá, Colombia; one female paratype in Museum Budapest, Hym. Typ. No. 12021.

Etymology. The species name *inaequalis* refers to the unequal lengths of *3–SR* and *2–M* of the fore wing (Fig. 55).

Description. Body 3.3 mm long. Antenna (right one) somewhat longer than body and with 30 antennomeres. First flagellomere a little longer than second, first flagellomere 3.5 times as long as broad apically, subsequent flagellomeres shortening and attenuating so that penultimate flagellomere 3.6 times as long as broad. Head in dorsal view transverse (Fig. 51), almost 1.7 times as broad as long, eye fairly large: 7.5 times as long as temple, temple receding. Ocelli small, elliptic, OOL twice as long as POL. Eye in lateral view 1.3 times as high as wide and 5.4 times as wide as temple, beyond eye evenly wide (Fig. 52). Horizontal diameter of oral opening twice as long as shortest distance between opening and eye. Maxillary palp as long as height of head. Occipital carina completely removed from hypostomal carina. Face and gena smooth and shiny, vertex subgranulose, subshiny to matt.

Mesosoma in lateral view nearly twice as long as high. Mesoscutum, scutellum and propodeum granulose, otherwise mesosoma smooth and shiny. Pronope absent.

Notauli complete, deep, smooth. Prescutellar furrow crenulate. Precoxal suture weakly distinct, smooth. Propodeum granulose, with a medio-longitudinal carina dividing posteriorly, polished anterior to and around spiracles (Fig. 53). Hind femur 3.8 times as long as broad medially (Fig. 54). Inner apex of hind tibia with comb-like dense bristles (cf. Fig. 15 in Scatolini et al. 2002: 126). Pair of spines of hind tibia shorter than half length of basitarsus.

Fore wing as long as body. Pterostigma (Fig. 55) four times as long as wide and *r* issuing from its middle, somewhat longer than width of pterostigma (12:10). Second submarginal cell long, *3–SR* twice as long as *2–SR*; *SR1* faintly bent, slightly more than twice as long as *3–SR* and reaching tip of wing. Vein *r*, *2–SR* and *m–cu* equal in length. First subdiscal cell long, distally closed (Fig. 56, see arrow).

First tergite (Fig. 57) 1.5 times as long as broad posteriorly, weakly broadening posteriorly, dorsope distinct, pair of basal keels ending before middle of tergite, domed median part of tergite granulose. Second tergite quadrate, a little broader behind than long medially; tergites 2–4 largely weakly sclerotized or membranous (Fig. 57). Ovipositor sheath long, as long as mid tibia.

Scape and pedicel ochre, flagellum brown. Ground colour of head and mesosoma ochre; scutellum, propodeum and tergites brown. Mouthparts yellow, palps straw yellow. First tergite dark brown. Legs yellow, coxae and trochanters 1–2 straw yellow. Wings hyaline, pterostigma brownish, basally and apically yellow, veins yellowish to brownish.

Paratype ♀**.** Similar to the female holotype. Body 3.3 mm long. Head somewhat dark ochre.

Male and host unknown.

Distribution. Colombia.

Diagnosis. The new species, *Pseudorhysipolis inaequalis*, runs to *P. notaulicus* van Achterberg & Penteado-Dias in Scatolini et al.'s key (2002: 111–113) and belongs to the subgenus *Pararhysipolis;* the two species differ from each other by the features in the key (*P. notaulicus* is known to me by its original description: Scatolini et al. 2002: 111–113):

1(2) Fore wing: *3–SR* and *2–M* equal in length, i.e. second submarginal cell rectangular (Fig. 12 in Scatolini et al. 2002: 126). Eye in dorsal view 4.4 times as long as temple. First tergite 1.1 times as long as broad behind (on Fig. l.c. 1.25 times longer). Hind femur 4.4 times as long as broad. Pterostigma rather dark brown, mesoscutum black. ♀: 3.3 mm. – Brazil .... ***Pseudorhysipolis notaulicus* van Achterberg & Penteado-Dias, 2002**

2(1) Fore wing: *3–SR* 0.6 times as long as *2–M*, i.e. second submarginal cell usual in form (Fig. 55). Eye in dorsal view 7.5 times as long as temple (Fig. 51). First tergite 1.5 times as long as broad posteriorly (Fig. 57). Hind femur 3.8 times as long as broad (Fig. 54). Pterostigma basally yellow, mesoscutum ochre. ♀: 3.3 mm. – Colombia..... ***Pseudorhysipolis inaequalis* sp. n.**

Acknowledgements

I am much indebted to the curators for their kindness to promote my taxonomic work by loaning type and other braconid material: Dr M. Fischer (Wien), Dr M. J. Sharkey (Lexington) and Dr S. R. Shaw (Laramie). Also my sincere thank should go to Dr. G. Broad (London) as peer referee considerably improved the content as well as the linguistic style of my paper.

References

Achterberg C van (1976) Revision of the tribus Blacini (Hymenoptera, Braconidae, Helconinae). Tijdschrift voor Entomologie 118(7): 159–322.

Achterberg C van (1988) Revision of the subfamily Blacinae Foerster (Hymenoptera, Braconidae). Zoologische Verhandelingen Leiden 249: 1–324.

Achterberg C van (1993) Illustrated Key to the subfamilies of the Braconidae (Hymenoptera: Ichneumonoidea). Zoologische Verhandelingen Leiden 283: 1–189.

Achterberg C van (1995) Generic revision of the subfamily Betylobraconinae (Hymenoptera: Braconidae) and other groups with modified fore tarsus. Zoologische Verhandelingen Leiden 298: 1–242.

Belokobylskij SA (2002) East Palaearctic species of the braconid genus Synaldis Forster (Hymenoptera, Braconidae, Alysiinae). Species without mesoscutal pit. Entomologicheskoe Obozrenie 81(2): 394–416.

Fischer M (1967) Die nearktischen Arten der Gattung Synaldis Foerster (Hymenoptera, Braconidae, Alysiinae). Polskie Pismo Entomologiczne 37(3): 431–478.

Fischer M (1970) Revision der nearktischen Aspilota-Arten der Sektion D und Ergänzungen zu anderen Artengruppen (Hymenoptera, Braconidae, Alysiinae). Annalen des Naturhistorischen Museums in Wien 74: 91–127.

Fischer M (1975) Taxonomische Untersuchungen an neotropischen Alysiini, besonders solchen aus dem British Museum (Nat. Hist.) in London (Hymenoptera, Braconidae: Alysiinae). Studia Entomologica (Rio de Janeiro) 18(1–4): 127–152.

Fischer M (1993) Zur Formenvielfalt der Kieferwespen der Alten Welt: Über die Gattungen Synaldis Foerster, Trisynaldis Fischer und Kritscherysia Fischer gen. n. (Hymenoptera, Braconidae, Alysiinae). Annalen des Naturhistorischen Museum in Wien 94–95(B): 451–490.

Harris RA (1979) A glossary of surface sculpturing. Occasional Papers in Entomology 28: 1–31.

Scatolini D, Penteado-Dias AM, van Achterberg C (2002) Pseudorhysipolis gen. n. (Hymenoptera: Braconidae: Rhysipolinae) with nine new species from Brazil, Suriname and Panama. Zoologische Mededelingen Leiden 76(13): 109–131.

Wharton R (1980) Review of the Nearctic Alysiini (Hymenoptera, Braconidae). With discussion of generic relationships within the tribe. University of California Publications Entomology 88: I–XI + 1–112.

Wharton R (1993) Review of the Hormiini (Hymenoptera: Braconidae) with a description of new taxa. Journal of Natural History 27: 107–171.

Wharton RA (1997) Subfamily Alysiinae. In: Wharton RA, Marsh PM, Sharkey MJ (Eds) Manual of the New World genera of the family Braconidae (Hymenoptera) 1: 85–116.

Whitfield JB, Wharton RA (1997) Subfamily Hormiinae. In: Wharton RA, Marsh PM, Sharkey MJ (Eds) Manual of the New World genera of the family Braconidae (Hymenoptera) 1: 285–301.

Yu DS, Achterberg C van, Horstmann K (2005) World Ichneumonoidea2004, Taxonomy, biology, morphology and distribution. Taxapad 2005: Scientific names for information managegement. http://www.taxapad.com/local.php